

- 15 -

## [CLAIMS]

1. A method for reproducing an electronic image, comprising pixels having an input pixel value  $I_p$ , on a multilevel output device having  $N$  allowable output pixel values, comprising the steps of :
- 5     - for each pixel  $p$  choosing a real subset  $S_p$  from said  $N$  allowable output pixel values, said subset  $S_p$  containing  $N_p$  allowed output pixel values where  $0 < N_p < N$ ,
- 10     - halftoning said electronic image by a multilevel halftoning algorithm by quantizing, for each of said pixels, said input pixel value to obtain a corresponding output pixel value out of the  $N_p$  allowed values in  $S_p$ ,
- rendering said image on said multilevel output device by rendering said pixels using said obtained output pixel values.
- 15   2. The method according to claim 1 wherein said real subset  $S_p$  is chosen as a function of said input pixel value  $I_p$  in said electronic image.
3. The method according to claim 1 wherein said real subset  $S_p$  contains two of said allowable output pixel values.
- 20   4. The method according to claim 1 wherein said input pixel value and said allowable output pixel values correspond to density levels and wherein said allowed output pixel values correspond to the two density levels closest to the density level corresponding to said input pixel value.
- 25   5. The method according to claim 1 wherein said multilevel halftoning algorithm is an error diffusion algorithm.
6. The method according to claim 5 wherein said multilevel halftoning algorithm is an error diffusion algorithm with a dot distribution correction in low and high intensity image regions.

- 16 -

7. A method for reproducing an electronic colour image, said electronic colour image comprising electronic colour component images, by reproducing said electronic colour component images, comprising the step of reproducing at least one of said electronic colour component images according to a method according to claim 1.
8. A method for reproducing a colour image, having  $k$  colour components,  $k > 1$ , each colour component comprising pixels having an input colorant value, by reproducing colour component images, on a multilevel output device having  $N_i$  allowable output colorant values for the  $i$ -th colour component  $i=1, \dots, k$ , comprising the steps of :
- for any colour component  $i$  of any pixel  $p$ , choosing from said  $N_i$  allowable output colorant values a real subset  $S_{ip}$  containing  $N_{ip}$  allowed output colorant values where  $0 < N_{ip} < N_i$ , and
  - generating a set  $S_p$ , containing all allowed colorant combinations for pixel  $p$ , by making the Cartesian product of the subsets  $S_{ip}$  for the individual colour components;
  - halftoning said electronic image by a multilevel halftoning algorithm quantizing for each of said pixels said input colorant value to obtain a corresponding output colorant value in  $S_p$ ,
  - rendering said image on said multilevel output device by rendering said pixels using said obtained output colorant values.
9. Multilevel output device, having  $N$  possible output pixel values corresponding to  $N$  possible output density levels, for reproducing a continuous tone image having pixels with an input pixel value as a multilevel halftone image, comprising :
- means for processing the input pixel value of pixels to obtain a corresponding output pixel value,
  - a control circuit for restricting the allowed output pixel

- 17 -

values to a subset of all allowable output pixel values according to the input pixel value,

- means for rendering the pixels according to the obtained output pixel values as halftone dots having the corresponding density, thereby rendering the halftone image.

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